typhlitis in children and to determine risk factors for its development.
Methods: We reviewed the medical records of pediatric cancer patients with typhlitis from 1995 to 2005 for clinical, laboratory and radiographic findings, and compared them to a control group of cancer patients hospitalized during the same period without typhlitis.
Results: During the study period 843 patients were diagnosed with cancer at the Schneider Children's Medical Center. Among them, there were 52 episodes of typhlitis in 42 patients (5%), of whom, 32 were treated for hematological malignancies (76%). The incidence was highest in patients with AML and Burkitt's lymphoma (15% and 12%, respectively). The most common clinical findings were abdominal pain (89%) abdominal tenderness (83%), fever (75%) and mucositis (58%). Only 50% had severe neutropenia (<100 ANC) on admission. All patients had abdominal X-RAY while abdominal US and CT were performed in 23% and 11% of patients, respectively. The latter imaging methods did not contribute to the diagnosis or the management of our patients. All patients were treated conservatively with a 100% survival rate. In multivariate analysis, mucositis (OR-30.7), history of bone marrow transplantation OR-58.9) and use of chemotherapy in the two weeks preceding the typhlitis (OR-12.9) were significantly associated with typhlitis.
Conclusions: The incidence of typhlitis is increasing compared to previous studies. The highest incidence was among AML and Burkitt's lymphoma patients. Although severe neutropenia was identified as a significant risk factor, it was absent in 50% of the cases. Mucositis, history of BMT and chemotherapy in the preceding two weeks were major independent risk factors. Most of pediatric patients with Typhlitis may be treated conservatively with excellent results. The high survival rate may be attributed to high index of suspicion and prompt therapy.

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Study of Secondary Infections in Febrile Neutropenic Patients

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Background: Neutropenic patients may develop secondary infections (SI) during the treatment of primary infections (PI).
Objectives: To identify predictive variables of secondary infections among febrile neutropenic patients (FNP) who respond to initial antibiotic therapy, and analyze whether SI increase mortality.
Methods: FNP with acute leukemia, other haematologic diseases, solid tumors and drug induced neutropenia were eligible. Only the first episode of febrile neutropenia of each patient during the period 1997-2007 was included, and those who did not respond to initial antibiotic treatment were excluded. Variables assessed were: age, sex, underlying disease, hematopoietic stem cell transplantation, in-patient at the time of primary infection (IPI), presence of central catheter, severity of neutropenia (<100 vs. 100-500 PMN/mm^3 presence of focus and/or bacteremia at PI, previous antimicrobial prophylaxis and initial empiric antibiotic therapy.
Results: Of the 403 FNP with their first episode of febrile neutropenia, 299 responded to initial antibiotic regimen and therefore were considered for our analysis. SI were observed in 64/299(21.4%). Forward and backward stepwise multiple logistic regression test were performed and we obtained a model with 6 predictive variables: age under 40 (odds ratio (OR) 2.77 [95% CI 1.36-5.63], p=0.005); acute myeloblastic leukemia (AML)(OR 13.31 [95% CI 6.14-28.86], p=0.001); severe neutropenia (OR 2.24 [95% CI 1.02-4.93], p=0.044); focus at PI (OR 2.60 [95% CI 1.22-5.57], p=0.013); bacteremia at PI (OR 3.21 [95% CI 1.46-7.05], p=0.004); and IPI (OR 2.36 [95% CI 1.18-4.68], p=0.014). When none of the predictive variables were present, the probability of SI was 1.3%, and when the 6 variables were present, it was 95.6%. A score system to predict the probability of SI was performed. In the multivariate analysis, predictive variables associated with mortality were bacteremia in PI (OR 7.8 [95% CI 2.4-24], p<0.001) and SI (OR 4.4 [95% CI 1.4-13], p=0.01). Mortality was 14% in PNF with SI, and 2.5% without SI (p<0.001).
Conclusions: The predictive variables of SI were: AML, age under 40, severe neutropenia, IPI, and bacteremia and focus in PI. The presence of bacteremia in the PI and the development of SI were interpreted as prognostic factors. Our scoring system must be validated in a prospective study.

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Oral Moxifloxacin in the Outpatient Treatment of Low-risk Children with Fever and Neutropenia

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Background: Fever in neutropenic patient requires immediate broad-spectrum antibiotic treatment. However, such patients do not represent a homogeneous population and the majority of them are at low risk of developing infectious complication. Several studies and recent meta-analysis have shown that intravenous antibiotics may be substituted by oral antibiotics safely in low risk patients with febrile neutropenia (FN). Moxifloxacin, a new broad spectrum quinolone, is an alternative to treat these patients.
Objective: To evaluate the use of oral moxifloxacin in oncologic pediatric patients with FN.
Methods: We conducted a prospective study in patients submitted to chemotherapy and FN, from the ages of 3 to 21 years old, with solid tumors, remission acute lymphoid leukemia (ALL), and lymphomas (L) without co-morbidities and treated as outpatient with oral Moxifloxacina, (15mg/body weight/day -max. 600mg/day) administered orally once a day. Safety and adverse events were monitored at the beginning and after each seven days of treatment, with evaluation of renal and hepatic functions, glicemia and EKG.
Results: Between October 2005 and November 2007, 144 episodes of FN were included (90 patients). We evaluated 123 episodes (89 patients), being 50.6% males with a median age of 11.3 years. 25.8% corresponded to patients with ALL, 15.7 OS, 12.4% CNS tumors, 9.0% NB, 7.9% Ewing S., 6.7% RMS, 5.6% L, 2.2% Wilms tumors 1.1% PNET, and 13.5% other tumors. 9.8% of the episodes had a CVC. Analyzing the 106 complete episodes, the average duration of neutropenia (ANC < 500 cells) was 4.8 days (range, 1-16 days), the average duration of fever was 2.2 days (range 1-8 days); the average duration of the treatment was 8.2 days (range 5-21 days).In the last clinical evaluation, 67% were FUO, 15.1% were MDI and 17.9% were CDI. No patient died. Successful treatment occurred in 84.5% of episodes, 79.6% without modifications (exclusively with moxifloxacin as outpatient). The reasons for failure of treatment (19/15,5%) were clinical status deterioration in 4 patients persistent fever (2) and microbiologic evidence (8) an adverse event in four (vomiting and plateletpenia). No serious adverse events were observed.
Conclusion: This non-randomized study shows that oral moxifloxacin appears effective, safe, convenient, and well-tolerated agent for the outpatient management of low-risk episodes of chemotherapy induced FN in pediatric patients in our particular setting.